

# Using Pollution Prevention Opportunity Assessments as a Method for Implementing Hazard Controls

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# PNNL P2 Program Components

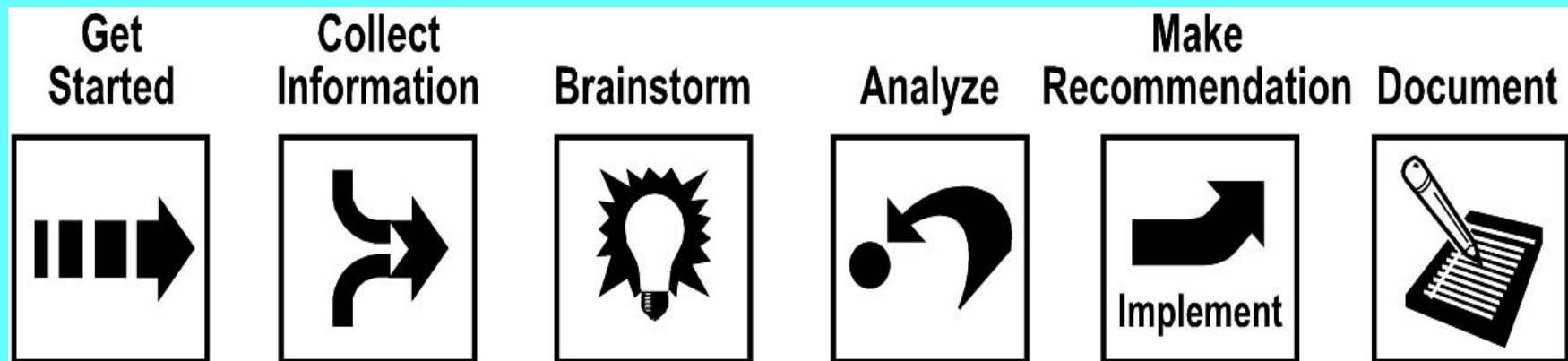
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- Pollution Prevention Program Plan and Goals
- Pollution Prevention Opportunity Assessments & Technical Assistance
- Implementation Funding
- Environmentally Preferable Purchasing Program
- Recycling Program
- Employee Involvement, Awareness and Recognition
- Community Outreach
- Tracking Waste and Purchases
- Reporting

# Pollution Prevention Opportunity Assessment (P2OA)

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A P2OA is a process which thoroughly examines work activities and identifies opportunities to minimize the generation of waste.

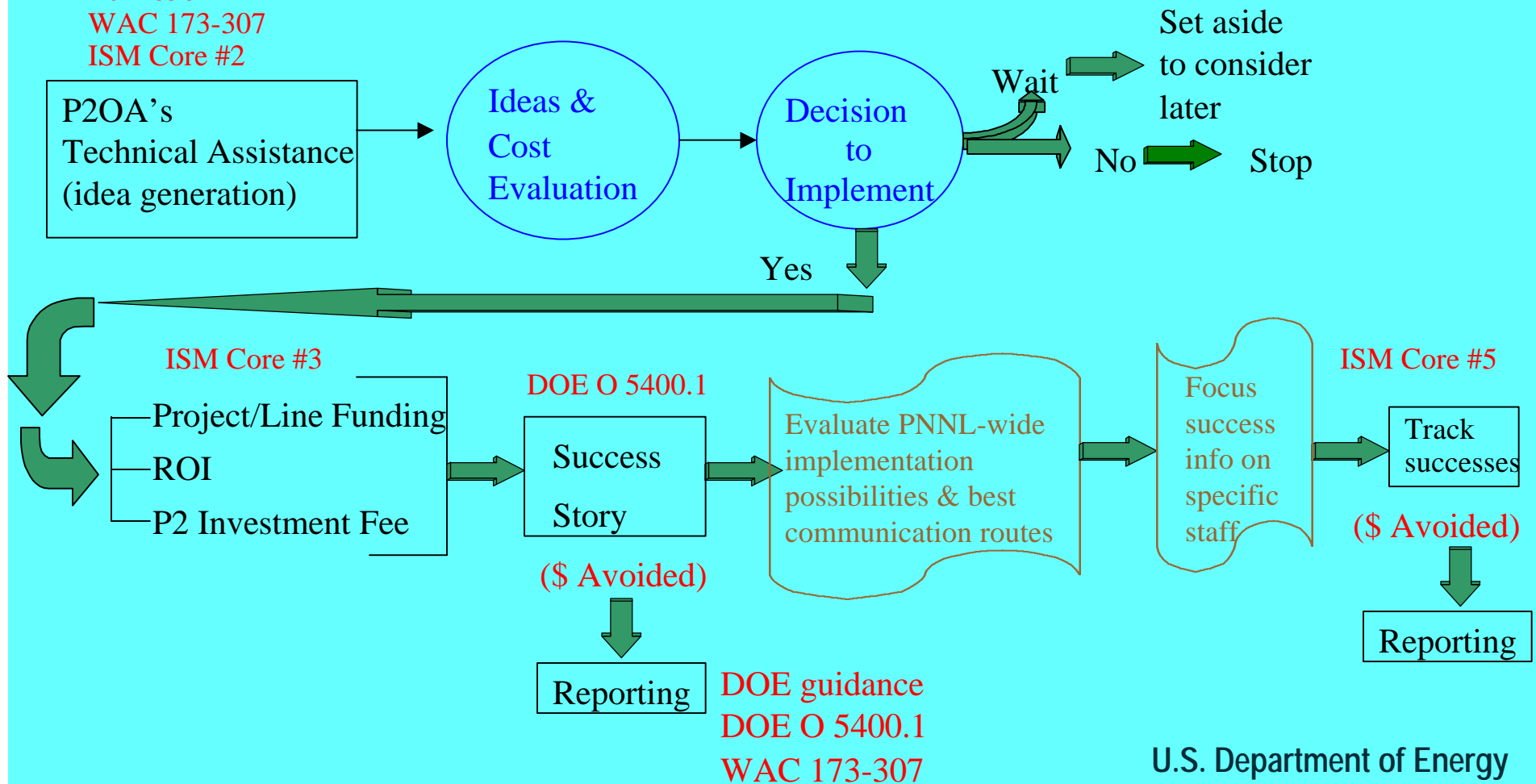


# P2OAs/Technical Assistance & Implementation

E012856

WAC 173-307

ISM Core #2



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# Five Core Functions of ISM

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- Define the scope of work
- Identify and analyze the hazards
- Develop and implement hazard controls
- Perform work within controls
- Provide feedback and continuous improvement



# Objectives of a P20A

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- Identify activities that will reduce the use of materials, the generation of waste, and/or minimize hazards
- Provide a basis for prioritizing the specific opportunities for reducing waste from facility activities
- Produce a summary of material usage and waste produced for a particular activity or facility

# History of P2OAs

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- Started in 1988 by EPA as Waste Minimization Opportunity Assessments (*Waste Minimization Opportunity Assessment Manual*)
- Revised in 1992 to have a multimedia approach; now called Pollution Prevention Opportunity Assessments (*Facility Pollution Prevention Guide*)
- States, DOE, Industry embraced them (PWAs, P2OAs)
- Waste Minimization Assessment Centers (Industrial Assessment Centers) put a focus on small businesses
- P2OAs are now multimedia and cover all kinds of activities, not just routine processes.

# Regulatory Drivers for P2OAs

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- Washington Administrative Code 173-307
  - The plan shall include “..an identification of hazardous substances use and hazardous waste generated by the facility, a description of facility processes, an identification of reduction, recycling, and treatment opportunities, and evaluation of these opportunities, a schedule of proposed options, performance goals, and an implementation schedule.”
- Resource Conservation and Recovery Act (40 CFR 264.73)
- Pollution Prevention Act of 1990

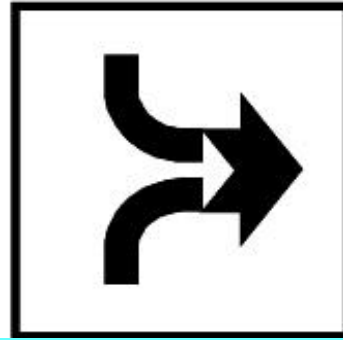


## Get Started



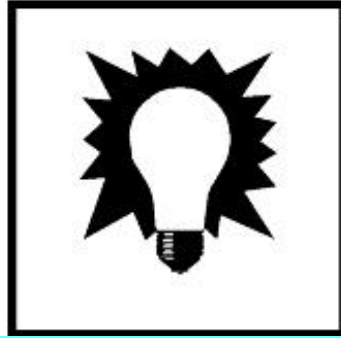
- Establish the scope of the assessment
- Gain management support
- Identify the assessment team & team leader
- Assign a pollution prevention point-of-contact
- Set a schedule & kick-off the assessment

## Collect Information



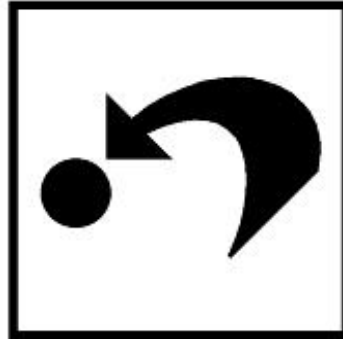
- Learn about your material & chemical usage
- Determine your waste generation qualities, quantities, and sources
- Write a description of the activity that is being analyzed
- Research similar assessments done within your organization and in other areas
- Complete a walkthrough of the appropriate areas with your assessment team

# Brainstorm



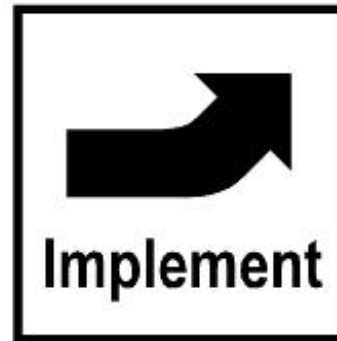
- Invite the participants
- Prepare the participants
- Conduct a brainstorm session
- Assign action

## Analyze



- Describe the opportunities
- Conduct a qualitative analysis
- Conduct a quantitative analysis
- Determine amount of waste reduced
- Estimate cost avoidance
- Estimate implementation cost
- Calculate payback and return-on-investment

## Make Recommendation



- Identify opportunities that are worthy of implementation
- Present the implementation recommendations & results to management
- Implement the easy or free opportunities and look for the funding resources needed to implement the opportunities that need outside funding

## Document



- Complete pollution prevention opportunity worksheets
  - Document opportunities and recommendations for implementation
- Provide report to management and to pollution prevention specialist

# Benefits of Doing a P20A

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- Identifies pollution prevention opportunities
- Creates a baseline to monitor pollution prevention progress
- Serves as a continuous process improvement tool
- Provides economic evaluation information

# Elements of a Successful P20A

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- Participation by team members that will be responsible for implementation
- Detailed Activity Flow Diagram for current & future material and waste prioritization efforts
- List of pollution prevention opportunities that can be implemented both now and later
- Management awareness/support of the assessment
- Evolutionary change, rather than revolutionary